

E-MB

Name of work :- Estimate for the work of Providing and laying of sanitary pipe line 230mm & 300mm Double wall corrugated pipe line at Kurlappa layout near Ogiluroad (Ward no.1) Yelahanka CMC area

E-MB

AGREEMENT NO: EE/YNK/AG/24/2020-21 DATED 20/05/2020

Work order No:-BBMP/EE/YNK/EPMT-16/W.O / 32/2020-21 ,DATED 01/06/2020

COST OF ESTIMATE : Rs 32,50,000=00

COST OF AGREEMENT : Rs 31,15,466=00

Name of contractor : H E Shashikala, M/s Sri Shakthi Ganapathi Construction

1 ST & Final Bill

Sl no	Description	Unit	L	B	D	Qty
1	Conducting the level and strip of survey of alignment of Main Sewers of required diameter including all data required for generating GIS map of sewer network, preparation and submission of plan & LS with Ground level at 30m interval and junction points along the centre line of the alignment etc., showing the right of way, any permanent features, culverts, branch sewer pipe complete as per specifications and as directed by the Engineer incharge with	Rmt				602
2	Cutting road surface for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc., in the following classifications as directed by the Engineer incharge with all lead and lifts etc., complete. Cutting asphalt road (BWSSB SR 2016-17, I no 4(2), P.no 9)					
	Cutting asphalt road					
	Pipe line excavation of Mh-47-46-45	Cum	12.5	1.5	0.05	0.94
	Pipe line excavation of Mh44-43	Cum	27.5	1.5	0.05	2.06
	Pipe line excavation of Mh43-42	Cum	22.75	1.5	0.05	1.71
	Pipe line excavation of Mh41-40	Cum	27.5	1.5	0.05	2.06
	Pipe line excavation of Mh40-39	Cum	27.5	1.5	0.05	2.06
						8.83
3	Cutting macadam road (BWSSB SR 2016-17, I no 4(1), P.no 9)					
	Pipe line excavation of Mh-47-46-45	Cum	12.5	1.5	0.3	5.63
	Pipe line excavation of Mh44-43	Cum	27.5	1.5	0.3	12.38
	Pipe line excavation of Mh43-42	Cum	22.75	1.5	0.3	10.24
	Pipe line excavation of Mh41-40	Cum	27.5	1.5	0.3	12.38
	Pipe line excavation of Mh40-39	Cum	27.5	1.5	0.3	12.38
	Pipe line excavation of Mh39-36	Cum	42	1.5	0.3	18.90
						71.89
4	Earth work excavation for pipeline trenches (except building works) including barricading depositing on bank with all lead including danger lighting and using slight rails and boning rods including shoring, strutting, bailing out water at every 100 meters wherever necessary as directed in the following strata in the following strata with all lead & lift etc complete (BWSSB SR 2016-17, I no 95(b), P.no 90)					
	Upto 2.0m depth for 300mm DWC pipe line					
	For laying 300mm DWC pipe line					
	Pipe line excavation of Mh-47-46-45	Cum	30	2	2	
	Excavation for MH Mh-47-46-45	Cum	3		(3.142*1.25*1.25)*2	120.00
	Pipe line excavation of Mh-45-44	Cum	20	2	2	29.46
	Excavation for MH Mh-45-44	Cum	1		(3.142*1.25*1.25)*2.0	29.46
	Pipe line excavation of Mh44-43	Cum	27.5	2	2	9.82
	Excavation for MH Mh-44-43	Cum	1		(3.142*1.25*1.25)*2.0	110.00
	Pipe line excavation of Mh43-42	Cum	22.75	2	2	9.82
	Excavation for MH Mh-43-42	Cum	1		(3.142*1.25*1.25)*2.0	91.00
	Pipe line excavation of Mh42-41	Cum	22.5	2	2	9.82
	Excavation for MH Mh-42-41	Cum	1		(3.142*1.25*1.25)*2.0	90.00
						9.81

H.E. Shashikala
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Pipe line excavation of Mh41-40	Cum	27.5	2	2	110.00
Excavation for MH Mh-41-40	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 2.0$	9.81
Pipe line excavation of Mh40-39	Cum	25	2	2	100.00
Excavation for MH Mh-40-39	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 2.0$	9.81
Pipe line excavation of Mh39-36	Cum	40.5	2	2	162.00
Pipe line excavation of Mh 36-35-34	Cum	37.5	2	2	150.00
Pipe line excavation of Mh 35-33	Cum	19.5	2	2	78.00
Pipe line excavation of Mh 33-31-32	Cum	18	2	2	72.00
Excavation for MH Mh-40-39	Cum	8		$(3.142 \times 1.25 \times 1.25) \times 2.0$	78.55
Deduct for					1279.3
a) Cutting Ashphalt road					-8.83
b) Cutting macadam road					-71.89
c) disintegrated rock					-147.45
d) hard rock by chistelling					-39.12
					1012.1
5 Above 2.m -up to 4.0m (BWSSB SR 2016-17,SL no:1 1b,P.no 6)					
Pipe line excavation of Mh-47-46-45	Cum	30	0.9	1.5	40.50
Excavation for MH Mh-47-46-45	Cum	3		$(3.142 \times 1.25 \times 1.25) \times 1.6$	23.57
Pipe line excavation of Mh-45-44	Cum	20	0.9	1.5	23.57
Excavation for MH Mh-45-44	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.86
Pipe line excavation of Mh44-43	Cum	27.5	0.9	1.5	37.13
Excavation for MH Mh-44-43	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.86
Pipe line excavation of Mh43-42	Cum	22.75	0.9	2	40.95
Excavation for MH Mh-43-42	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.86
Pipe line excavation of Mh42-41	Cum	2.5	0.9	1.5	3.38
Excavation for MH Mh-42-41	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.86
Pipe line excavation of Mh41-40	Cum	27.5	0.9	1.5	37.13
Excavation for MH Mh-41-40	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.36
Pipe line excavation of Mh40-39	Cum	25	0.9	1.4	31.50
Excavation for MH Mh-40-39	Cum	1		$(3.142 \times 1.25 \times 1.25) \times 1.6$	7.36
Pipe line excavation of Mh39-36	Cum	35.5	0.9	1.4	44.73
Pipe line excavation of Mh 36-35-34	Cum	37.5	0.9	1.4	47.25
Pipe line excavation of Mh 35-33	Cum	19.5	0.9	1.4	24.57
Pipe line excavation of Mh 33-31-32	Cum	18	0.9	1.4	22.68
Excavation for MH Mh-31,33,35,36 &39	Cum	5		$(3.142 \times 1.25 \times 1.25) \times 1.5$	24.55
Excavation for MH Mh-32,34,37,38,40,41,42,43,44&45	Cum	7		$(3.142 \times 1.25 \times 1.25) \times 1.4$	48.11
Deduct for	Cum				495.74
a) disintegrated rock	Cum				-37.40
b) hard rock by chistelling	Cum				-11.58
	Cum				446.76
Qty up to 125%, i.e 141.14X 125%	Cum				176.43
Beyond 125%	Cum				270.34
6 do- disintegrated rock, soft rock, soft shale and medium hard rock comprising of lime stone, sand stone, hard shale, schiest fissured rock without resorting to blasting up to 2 Mtr. Depth (BWSSB SR 2016-17,SL no:1 ii,P.no 6)					
Pipe line excavation of Mh47-46	Cum	30	1	0.6	18.00
Pipe line excavation of Mh44-43	Cum	30	1.2	0.6	21.60
Pipe line excavation of Mh41-40	Cum	30	1.1	0.57	18.81
Pipe line excavation of Mh40-39	Cum	30	0.95	0.6	17.10
Pipe line excavation of Mh39-36	Cum	38	0.99	0.7	26.33
Pipe line excavation of Mh 36-35-34	Cum	37.5	0.95	0.61	21.73
Pipe line excavation of Mh 35-33	Cum	19.5	0.95	0.6	11.12
Pipe line excavation of Mh 33-31-32	Cum	18	0.9	0.6	9.72
Excavation for MH Mh-40-39	Cum	10		$(3.142 \times 1.25 \times 1.25) \times 62$	3.04

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H.E. Shrivastava

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7	Above 2 up to 4 Mtr. Depth					147.45
	Pipe line excavation of Mh44-43	Cum	25	0.9	0.28	6.30
	Pipe line excavation of Mh41-40	Cum	22	0.9	0.25	4.95
	Pipe line excavation of Mh40-39	Cum	20.2	0.81	0.29	4.74
	Pipe line excavation of Mh39-36	Cum	28	0.9	0.31	7.81
	Pipe line excavation of Mh 36-35-34	Cum	34.1	0.9	0.15	4.60
	Pipe line excavation of Mh 35-33	Cum	19.5	0.9	0.16	2.81
	Excavation for balance MH	Cum	10	$(3.142 \times 1.25 \times 1.25) \times 1.4$		6.19
						37.40
8	do- in hard rock by chistelling up to 2 Mtr. Depth (BWSSB SR 2016-17, SL no: 1v /a,b,c, P.no7)					
	Pipe line excavation of Mh44-43	Cum	30	0.72	0.2	4.32
	Pipe line excavation of Mh41-40	Cum	30	0.61	0.23	4.21
	Pipe line excavation of Mh40-39	Cum	30	0.65	0.2	3.90
	Pipe line excavation of Mh39-36	Cum	38	0.9	0.23	7.87
	Pipe line excavation of Mh 36-35-34	Cum	37.5	0.9	0.23	7.76
	Pipe line excavation of Mh 35-33	Cum	19.5	0.9	0.16	2.81
	Pipe line excavation of Mh 33-31-32	Cum	18	0.9	0.2	3.24
	Excavation for Balance MH	Cum	10	$(3.142 \times 1.25 \times 1.25) \times 1.4$		16.69
						50.80
9	do- in hard rock by chistelling 2.0 to 4 Mtr. Depth					
	Pipe line excavation of Mh44-43	Cum	25	0.72	0.25	4.50
	Pipe line excavation of Mh41-40	Cum	27	0.61	0.23	3.79
	Pipe line excavation of Mh40-39	Cum	22	0.65	0.23	3.29
						11.58
10	Providing erecting and removing casuarinapole three tier Barricading using poles of 7.50 to 10 cms. Dia. and 1.50m height above ground fixed vertically at intervals of 2.0 to 2.5 mtrs. C/C and horizontally at 0.50 mtrs above ground level, including fixing poles in the ground for a minimum depth of 0.30mtr. and tied with coir rope firmly including cost and conveyance of all materials, labour, lead and					
		M	301	2		602.00
11	Carting of excavated Earth of all types upto a distance mentioned below and re-carting back the earth to the same site by vehicle including loading,unloading charges for to & fro, with all lifts, labour, HOM of machinery etc. complete. Above 4 KM up to 5KM ,BWSSB SR 2016-17, P. no9 SI no 6 (Residential area)					
	Pipe line excavation of Mh 47-46-44	Cum	40	0.9	2	72.00
	Pipe line excavation of Mh 35-33	Cum	19	0.9	1.8	30.78
	Excavation for MH Mh-31,33,35,36 & 39	Cum	5	$(3.142 \times 1.25 \times 1.25) \times 1.5$		24.55
	Excavation for MH Mh-32,34,37,38,40,41,42,43, 44&45	Cum	7	$(3.142 \times 1.25 \times 1.25) \times 1.4$		48.11
	Pipe line excavation of Mh 33-31-32	Cum	18	0.9	1.4	22.68
						198.12
12	Providing course Sand Bedding for the pipeline trenches including watering and consolidation by punners etc., complete with all lead and lift (BWSSB SR 2016-17, P. no9 SI no 5)					
	sand bedding provided between Mh44-43-42-41-40 & 38	Cum	50	0.9	0.15	6.75
13	Providing and laying Plain Cement Concrete of mix 1:2:4 (M-15) with OPC @ 240kgs, with 40mm and down size					
	Pedastal At jacking point near MH-47	Cum	4 X2	0.9	0.5	3.60
	Pedastal At jacking point near MH-44	Cum	4 X2	0.9	0.5	3.60
	Set wrighting the collapsed flooring & Pedastal At jacking point near MH-42-41(Gundappa House)	Cum	13	0.9	0.6	7.02
	Pipe encasing at SWD crossing	Cum	4X6	1	0.75	18.00
						32.22
14	Refilling of available earth around pipelines, in layers not exceeding 20 cms in depth, compacting each deposited layer by ramming after watering all lead and lift including cost of all labour including consolidation by mechanical means approved by Engineer Incharge, when earth is at suitable moisture					

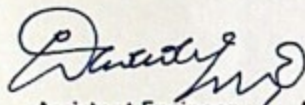
	Total excavation = 1458.8 - (Pipe qty+ manhole qty)					1458.8
	Deduct for					
	300mm Pipe line qty =	300*.175*.175*3.143				-28.9
	Manhole qty =	92.58				-94.6
	Concrete qty Vide Item no 13					-25.1
						1310.3
15	Supplying lowering laying, jointing, testing and commissioning of following diameters glazed stone ware pipes, conforming to IS 651:1992, (with 5th revision) in all respects jointing with EPDM rubber rings (seals)					
	230 mm dia	Rmt	559.2			0.00
16	Supplying of following diameters S&S RCC SPUN/VIBRATED CAST PIPES (REINFORCED) of NP-3 class					
		Rmt	285.2			0.00
17	Providing and constructing "wire cut brick manhole chambers" using sulphate resistant cement, conical in shape at top with C.C. 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15 m around the chamber and brick masonry in C.M. 1:4 plaster with wire cut bricks of approved quality and CM plaster 1:3 proportion 12 mm thick inside and outside except for the conical surface outside where the thickness of plaster shall be 20 mm thick, with 1:6 slope in the concrete towards the central drain, finished smooth and fixing of pipes in CC 1:2:4 graded metal of 20 mm and down size including conveying to work spot supplying & fixing SFRC manhole frame and cover conforming to IS-12592 with latest amendments in CC 1:2:4 supplying and fixing of					
	1.20M Diameter manholes	No				
18	a) For 1.0 meter	No	12			12
19	b) Above 1.0m below 2.0m	Mtr	9.4			6.5
20	a) For 2.0 meter	Rmt	10			
	Qty Up to 125% RA Enclosed		6			6
21	b) Above 2.0m below 3.0m	Mtr	3			3
22	a) For 3.00m depth	No	10			
	Qty Up to 125% RA Enclosed		6.25			6.25
	Qty Beyond 125% RA Enclosed	Rmt	3.75			3.75
23	b) Above 3.0m below 4.0m	Rmt	1.5			1.5
24	Removing B S slab of drain and stacking with all lead & lift and as per the directed by engineer in charge . PWD SR 2016-17 (P.No 173, SI no.5.32)					
	Pipe line Betn Mh-47-46 To facilitate for HDD	Sqm	25	0.75		18.75
	Pipe line Betn Mh-46-44 To facilitate for HDD	Sqm	20	0.62		12.4
	excavation of Mh-44-47	Sqm	15	0.6		9
						40.15
25	Refixing stone slabs of drain & pointing in CM (1:3) with all lead & lifts complete and as directed by the engineer in charge KPWD SR 2016-17 (P.No.173 SL No.5.33)					
	Qty as per item no 24					40.15
26	Dismantling of cement concrete payment by mechanical means using pneumatic tool, breaking to pieces not exceeding 0.02cum in volume and stock piling at designated locations and disposal of dismantled materials stacking unserviceable materials separately complete as per specifications. Morth Specification					
	Pipe encasing at SWD crossing	Cum	4X6	1	0.6	14.4
	Approach slab near MH 35-34	Cum	8	4	0.3	9.6
	Approach slab near MH 31-32	Cum	8	4	0.3	9.6
	Approach slab near MH 12-13	Cum	8	4	0.3	9.6
						43.2
27	Providing and laying Reinforced Cement Concrete of Design mix M-25 with OPC cement @340kgs with 20mm and down size graded granite metal coarse aggregates @0.7cum and fine aggregates @ 0.47cum, with superplasticiser @3lts conforming to IS9103-1999 Reaffirmed-2008. machine mixed concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footing, pedestals, retaining walls, return walls including attached plasters, column, piers, abutment, pillars, posts, struts, buttresses,					
	Approach slab near MH 35-34	Cum	7 X2	4	0.32	17.92
	Approach slab near MH 31-32	Cum	7 X2	4	0.32	17.92
	Approach slab near MH 45-46	Cum	7 X2	3	0.32	13.44
						49.28

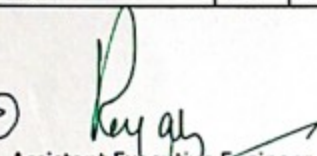
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20/08/2020

28	Dismantling Size stone masonry in lime / cement mortar and stacking the size stone and removing and disposing the debries with all lead & lifts etc complete including cost of all equipment and labour etc., complete as per specifications and as per directed by engineer in charge. KPWD SR (Page 370 SL no:5.6)						
	Between MH 47-46-45-44	Cum	2X18	0.62	1	22.32	
29	Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar, stone hammered dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, curing complete as per specifications.No. KBS 5.1.13(KPWD SR 2016-17, P no 171, I .no.5.6)						
	Between MH 47-46-45-44	Cum	2X18	0.6	1	21.6	
	EXTRA ITEM						
1	Supplying DOUBLE WALL CORRUGATED (External annul corrugated & smooth internal wall) (DWC) of class SN 8, piping system in accordance with IS 16098 (Part-2) and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing with all labour, lead & lifts, including encasing the pipes alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS (BWSSB SR 2017-18,P no 26, Code no 4295 & 4296)						
	Do-Pipes of SN 8, 300 mm dia.	Rmt	301			301	


Assistant Engineer
Ward No.1


Assistant Executive Engineer
Yelahanka sub division

Accepted the Measurements

Sri Shakthi Ganapathi Construction Company

H. E. Shobhithala
Proprietor